Quarkonium Production in Jets THOMAS MEHEN, Duke Univ —
This talk will describe new tests of quarkonium production using quarkonia that are
produced within jets. We study the distribution in the fraction $z$ of a jet’s longitudinal
momentum carried by the quarkonium. The $z$ distribution is sensitive to the
underlying NRQCD production mechanism. Analytic calculations of the $z$
distributions in SCET that incorporate Next-to-Leading-Log (NLL) resummation disagree
with default PYTHIA predictions. We describe a modified simulation method which
agrees well with NLL analytic calculations. This method is then successfully applied
to recent LHCb measurements of $J/\psi$ within jets. We discuss the implications of
this measurement for extractions of NRQCD long-distance matrix elements. Finally,
we discuss other observables involving quarkonium within jets which may be useful
for discriminating between NRQCD production mechanisms.

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